

In-Depth Analysis - JEE Mains S2 B.E/B.Tech Shift 1 (9:00 A.M to 12:00 P.M) (Memory-Based)

Disclaimer: Students had to answer only 75 Questions (300 marks) in the exam, But the Analysis below pertains to all the 90 Questions (360 marks)

JEE Mains B.Tech was held in online mode. It had 3 subjects which were divided into 6 sections which were Physics (Section - A & B), Chemistry (Section - A & B) and Mathematics (Section - A & B).

The 6 sections in this examination were divided in the following manner -

Subject	Section	No. of questions asked	No. of questions to be attempted	Total Marks
Physics (MCQ)	A	20	20	80
Physics (Single Answer Type Questions)	B	10	5	20
Chemistry (MCQ)	A	20	20	80
Chemistry (Single Answer Type Questions)	B	10	5	20
Mathematics (MCQ)	A	20	20	80
Mathematics (Single Answer Type Questions)	B	10	5	20
Total	6	90	75	300

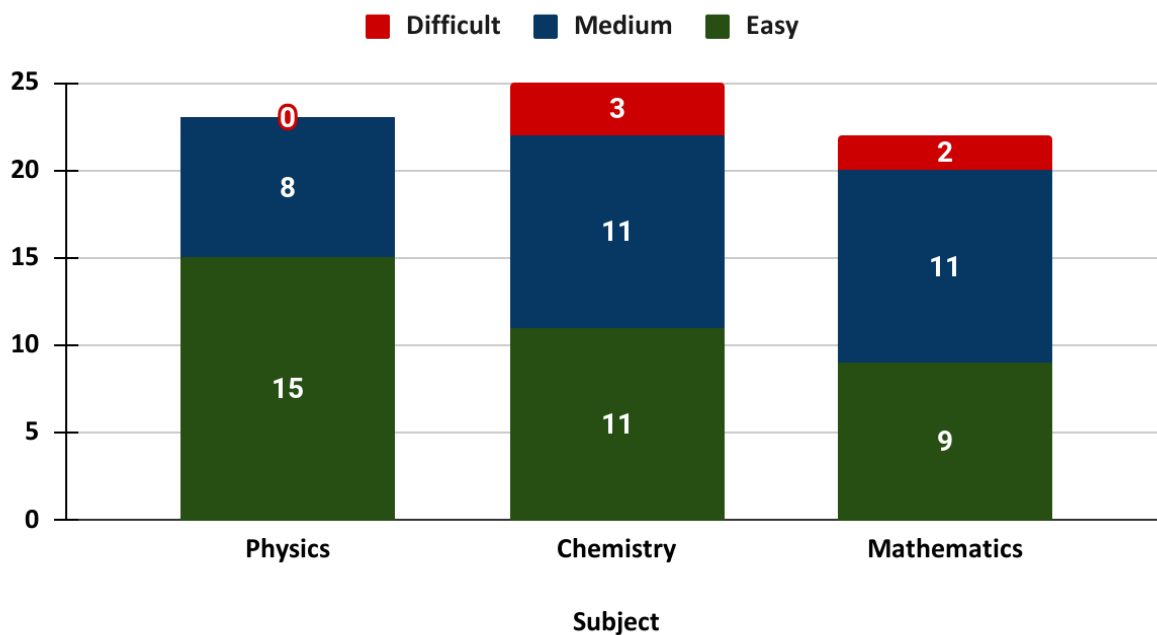
- Section A consists of 20 questions in each subject (Question Numbers – 01 to 20, 31 to 50 and 61 to 80). All questions are compulsory.
- Section B consisted of 10 questions in each subject (Question Nos – 21 to 30, 51 to 60 and 81 to 90). In Section B, a candidate needs to attempt any 5 questions out of 10 in each subject.

Subject Wise Analysis

Although it is the analysis of memory-based questions, our experts figured out 70 questions out of 90 questions i.e, **23** questions in Physics, **25** questions in Chemistry and **22** in Mathematics.

Subject	Easy		Medium		Difficult		Grand Total	
	No of Questions	Total Marks	No of Questions	Total Marks	No of Questions	Total Marks	No of Questions	Total Marks
Physics	15	60	8	32	0	0	23	92
Chemistry	11	44	11	44	3	12	25	100
Mathematics	9	36	11	44	2	8	22	88
Grand Total	35	140	30	120	5	20	70	280

Subject Wise Difficulty Level



- Most of the questions from the Physics were either easy or of moderate difficulty.
- Most of the questions from Chemistry were easy to moderate & few were difficult. But Chemistry had the most number of difficult questions.
- Most of the questions from Mathematics were easy to moderate and few were difficult.

Physics (Section 1 & 2)

Physics was easy compared to Chemistry & Maths. Physics had 15 easy questions and 8 medium-type questions. Following is the question distribution table as per Class, Chapter, Topic & Difficulty -

Class	Question No	Chapter Name	Topic Name	Difficulty Level
11th	1	Laws of Motion	Equilibrium	Medium
12th	2	Moving Charges and Magnetism	Motion of A Charged Particle In A Magnetic Field	Easy
12th	3	Electromagnetic Induction	Mutual Inductance	Medium
11th	4	Work, Energy and Power	Work Energy Theorem	Easy
12th	5	Current Electricity	Parallel Combination of cells	Easy
12th	6	Dual Nature of Radiation and Matter	Photoelectric Effect	Easy
11th	7	Motion In A Straight Line	Uniform Circular Motion	Easy
12th	8	Alternating Current	Alternating Voltage Applied To A Capacitor	Easy
11th	9	System of Particles and Rotational Motion	Rolling Motion	Medium
11th	10	Gravitation	Gravitational Force	Easy
12th	11	Wave Optics	YoungS Double Slit Experiment (Alternate Method)	Easy
12th	12	Current Electricity	Rc Circuits	Easy
11th	13	Dual Nature of Radiation and Matter	EinsteinS Photoelectric Equation: Energy Quantum of Radiation	Medium
12th	14	Semiconductor Electronics : Materials, Devices and Simple Circuits	Special Purpose P-N Junction Diodes	Easy
12th	15	Ray Optics and Optical Instruments	Some Natural Phenomena Due To Sunlight	Easy
12th	16	Alternating Current	Ac Voltage Applied To A Series Lcr Circuit	Easy
12th	17	Semiconductor Electronics : Materials, Devices and Simple Circuits	Logic Gates	Medium
11th	18	Units and Measurements	Dimensions of Physical Quantities	Easy
11th	21	Oscillations	Some Systems Executing Simple Harmonic Motion	Medium
12th	22	Communication Systems	Propagation of Electromagnetic Waves	Easy
12th	23	Atoms	Bohr Model of The Hydrogen Atom	Easy

11th	24	Thermodynamics	Thermodynamic Processes	Medium
12th	25	Current Electricity	Cells In Series and Parallel	Medium

Note - As this being a memory-based analysis our experts could figure out 23 out of 30 questions from Section - A (18 questions) and Section - B (5 questions)

Chemistry (Section 3 & 4)

Chemistry was moderate to difficult level questions. Chemistry had the most number of difficult questions i.e, 3. Chemistry had 11 medium & 11 easy questions. Following is the question distribution table as per Class, Chapter, Topic,& Difficulty -

Class	Question No	Chapter Name	Topic Name	Difficulty Level
12th	31	Polymers	3-D network Polymers	Easy
11th	32	Environmental Chemistry	Types of Smog	Easy
12th	33	Chemistry in Everyday Life	Drugs and Their Classification	Easy
12th	34	Biomolecules	Proteins	Easy
11th	35	The S-Block Elements	Group-1 Elements : Alkali Metals	Medium
12th	36	Haloalkanes and Haloarenes	Chemical Reaction of Properties	Medium
11th	37	Classification of Elements and Periodicity In Properties	IUPAC Nomenclature	Easy
11th	38	Equilibrium	Salt Hydrolysis	Medium
11th	39	Some Basic Concepts of Chemistry	Mole Concept and Molar Masses	Medium
12th	40	Coordination Compounds	Bonding In Coordination Compounds	Medium
12th	41	Alcohols, Phenols and Ethers	Some Commercially Important Alcohols	Difficult
12th	42	General Principles and Processes of Isolation of Elements	Extractive Metallurgy	Easy
11th	43	States of Matter	Viscosity	Medium
11th	44	The P-Block Elements	Boron Family	Medium
11th	45	Hydrocarbons	Alkenes	Easy
11th	46	Classification of Elements and Periodicity In Properties	Ionic Radii	Easy
12th	47	The P-Block Elements	Interhalogen Compounds	Medium
11th	48	Organic Chemistry Some Basic Principles and Techniques	Isomerism	Easy
11th	51	Chemical Bonding and Molecular Structure	Molecular Orbital Theory (Mot)	Medium

11th	52	Organic Chemistry Some Basic Principles and Techniques	Isomerism	Easy
12th	53	The P-Block Elements	Group 17 Elements	Medium
12th	54	The D and F-Block Elements	General Properties of The Transition Elements (D-Block)	Difficult
11th	55	Thermodynamics	First Law of Thermodynamics	Difficult
11th	56	Equilibrium	The Ph Scale	Medium

Note - As this being a memory-based analysis our experts could figure out 25 out of 30 questions from Section - A (19 questions) and Section - B (6 questions)

Mathematics (Section 5 & 6)

Mathematics was easy to moderate difficulty. Mathematics had 9 easy questions, 11 medium questions and 2 difficult questions. Following is the question distribution as per Class, Chapter, Topic & Difficulty -

Class	Question No	Chapter Name	Topic Name	Difficulty Level
11th	61	Trigonometric Functions	Heights and Distances	Easy
12th	62	Probability	Bernoulli Trials and Binomial Distribution	Easy
11th	63	Trigonometric Functions	Trigonometric Equations	Medium
11th	64	Complex Number and Quadratic Equations	Nth Roots of Unity	Medium
12th	65	Application of Integrals	Area Bounded Between Two Curves	Medium
11th	66	Mathematical Reasoning	Implications	Medium
11th	67	Probability	Definition of Probability	Medium
12th	68	Relations and Functions	Combination (Number of function)	Medium
11th	69	Complex Number and Quadratic Equations	Properties of Argument of Complex Number	Easy
12th	70	Integrals	Properties of Definite Integrals	Difficult
12th	71	Three Dimensional Geometry	Plane	Medium
12th	72	Differential Equations	Methods of Solution of Ordinary Differential Equation of First Order and First Degree	Difficult
12th	73	Application of Derivatives	Maxima and Minima	Easy
12th	74	Application of Integrals	Area Under Curves	Easy
11th	75	Straight Lines	Parametric form	Medium
12th	76	Vector Algebra	Cross Product	Medium
11th	81	Permutations and Combinations	Rank of A Word In Dictionary	Easy
11th	82	Limits and Derivatives	Limit	Easy

11th	83	Sequences and Series	Sum To N Terms of Special Series	Medium
11th	84	Condition For Common Root(S) of Quadratic Equations	Relation Between Roots and Coefficients of A Polynomial Equation	Medium
11th	85	Binomial Theorem	Remainder	Easy
12th	86	Inverse Trigonometric Functions	Principal Value and General Value	Easy

Note - As this being a memory-based analysis our experts could figure out 22 out of 30 questions from Section - A (16 questions) and Section - B (6 questions)

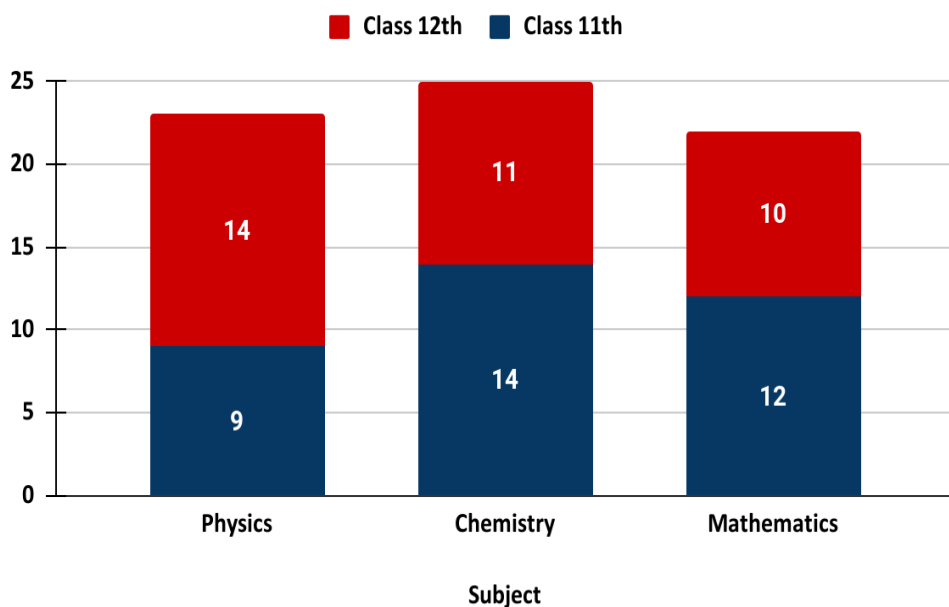
Class Wise Question Distribution

As per our expert faculties the questions from Class 12th syllabus dominated Class 11th syllabus. Below is the Class wise question distribution table -

Subject	11th		12th		Total Percentage	
	No. of Questions	Total Marks	No of Questions	Total Marks	Class 11	Class 12
Physics	9	36	14	56	30%	47%
Chemistry	14	56	11	44	47%	37%
Mathematics	12	48	10	40	40%	33%
Grand Total	35	140	35	140	39%	39%

Note - Percentage are taken out of 30 questions only. Grand Total percentages represent the average of the above-mentioned percentages.

Class Wise Question Distribution



Overall Difficulty Level Analysis

In this analysis, we have rated every question on a scale of 1 to 3. The ratings are done by our expert faculty. The individual ratings are then averaged to calculate the overall difficulty level.

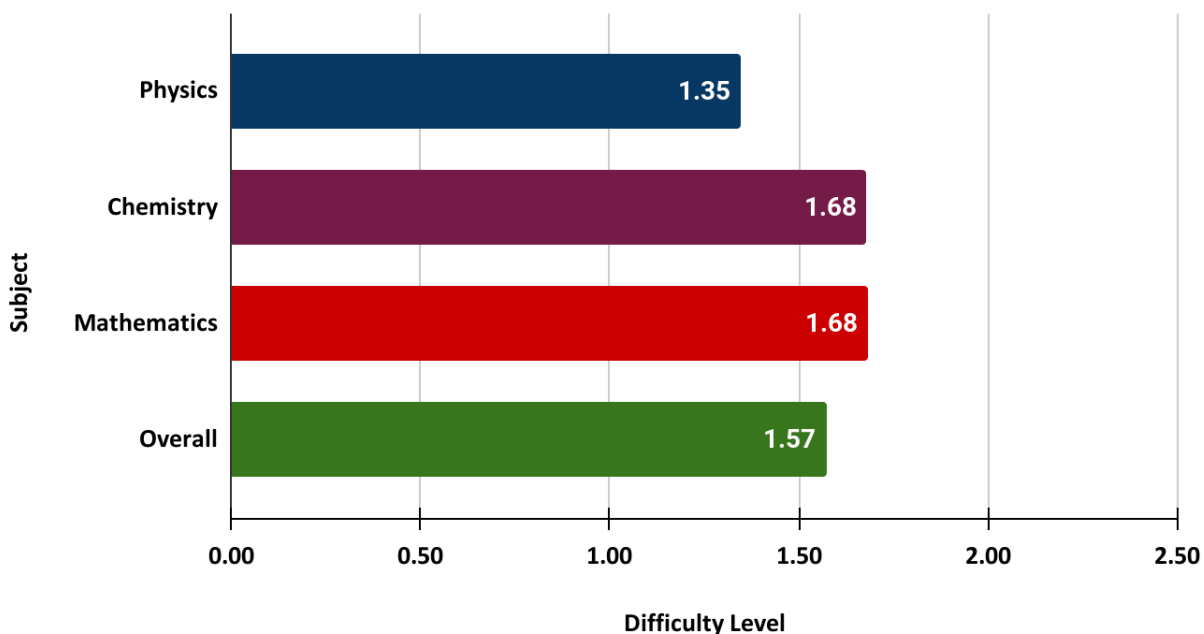
Easy - 1

Medium - 2

Difficult - 3

Subject	Difficulty Level
Physics	1.35
Chemistry	1.68
Mathematics	1.68
Overall	1.57

Overall Difficulty Level - JEE Mains S2 2022



As per our expert faculties this year JEE Mains session 2 B.E/B. Tech Shift 1 was almost the **same difficulty** as that of JEE Mains Session 1. The Overall Difficulty rating for JEE Mains Session 1 2022 was 1.64 (moderately difficult).